

MATERIAL SAFETY DATA SHEET

I. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name: Dioctyl adipate; Bis (2-ethylhexyl) adipate; Di-(2-ethylhexyl) adipate;
Adipic acid, bis (2-ethyl-hexyl) ester

Company Name: Foreschem Co.,Ltd.

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Document number: LFHG2017002

Effective Date: 6th Dec. 2017

II. COMPOSITION AND PHYSICAL DATA

This material is pure chemicals

Molecular Formula: C₂₂H₄₂O₄

Molecular weight: 371

CAS No.: 103-23-1

Content: ≥99%

III. HAZARDS IDENTIFICATION

Hazards categories: Non-Hazard goods

Pathways: inhalation, ingestion, eyes contact, skin contact

Health hazards: currently, no information on occupational poisoning reported.

Environmental hazards: this substance has environmental pollution, with particular attention to water pollution

Explosion hazard: high heat open flame or contact with oxidants, cause a fire hazard.

Chemical dangers: with strong oxidants, strong acid reaction, there is a fire hazard.

Inhalation risk: Not specified 20°C reached on evaporation of this substance at concentrations of harmful air rate.

Short-term exposure: The substance irritates the eyes. The substance may cause central nervous system.

Long-term or repeated exposure: The substance may have an impact on the liver.

IV. FIRST AID MEASURES

Skin Contact: Remove contaminated clothing, rinse, then wash skin with water and soap.

Eye Contact: First rinse with plenty of water for several minutes (if easily possible, remove contact lenses), then go for contact doctor.

Inhalation: Leave from on site to fresh air, ventilation, keeps the airway open, rest more. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration immediately and get medical treatment.

Fresh into: coverage to those who should drink a lot of water, induce vomiting and get medical treatment.

V. FIRE FIGHTING MEASURES

Hazardous characteristics: flammable and met a high heat, open flame or contact with oxidants, cause a fire hazard.

Hazardous combustion products: carbon monoxide, carbon dioxide, dense smoke

Fire fighting methods: use dry powder, AFFF, foam, carbon dioxide put out the fire

Fire Precautions: Fire water can not flow into the sewer or the river, fire hazardous decomposition products when it had caused the dense smoke, dense smoke

inhalation damage health, it is recommended to wear breathing apparatus when fire fighting, while use water to cooling the closed container around.

VI. ACCIDENTAL RELEASE MEASURES

Emergency treatment: cut off the fire, cut off the source of leakage as possible. Rapid leave contaminated areas evacuated personnel to a safe area, and isolation and strict restrictions on access. Recommended the person who deal with the emergency should wearing self-pressurized respirators and wear the anti-static clothing.

Preventing the leakage goes to sewers, flood discharge trench etc. restrictive space.

Small amount of leakage: use sand, activated carbon or other inert materials to

absorb the residue, collect leaking liquid in a covered container as far as possible, do not flush into the sewer. Collect residue carefully, then remove to safe place, do not let this chemical goes to the environment. Large leakage: to build a causeway or trenching asylum. Use the transfer pump to the tankers or exclusive collector; do not flush into the sewer. Collect residue carefully, then remove to safe place. Do not let this chemical goes to the environment.

VII. HANDLING AND STORAGE

Handling precaution: Closed operation, provide good natural ventilation. Operator must go through specialized training, strict adherence to rules. Proposed operators wear self-absorption filter respirators (half-mask), wearing chemical protective safety glasses, and wearing anti-chemical gloves. Keep away from the fire, heat, workplace forbid smoke. Use explosion-proof ventilation systems and equipment to prevent vapor leakage into the workplace air. Avoid contact with oxidants. Handling should care, and packaging and containers to prevent damage. Correspond with the variety and quantity of fire-fighting equipment and emergency equipment of leakage. Empty containers may be harmful residues.

Storage precautions: Store in a cool, ventilated warehouse. Should be strong oxidants, strong acids stored separately. Storage area should maintain in good ventilation, away from heat, ignition sources, avoid direct sunlight, with the appropriate type and quantity of fire-fighting equipment. Storage areas should be equipped with spill response equipment and suitable host material.

VII. EXPOSURE CONTROL/ PERSONAL PROTECTION

Occupational exposure limits: TLV not established.

Routes of exposure: The substance can be absorbed by inhalation of its vapor into the body.

Engineering controls: closed production process, full ventilation. Provide a safety shower and eyewash equipment.

Respiratory protection: Most do not need special protection; high concentrations can

wear contact since suction filtered gas masks (half-mask). Wear the air respirators during emergency rescue or evacuation.

Eye protection: higher concentration in the air, wearing chemical protective safety glasses.

Physical protection: wear normal clothes

Hand protection: Wear rubber gloves

Others: work site prohibit smoking, eating and drinking. Attention to personal hygiene.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and physical state: Colorless to yellow liquid
PH: Neutral

Freezing point (°C) : -67.8

Relative density (Water=1) : 0.924 (25°C)

Boiling point (°C) : 214 (0.67kPa)

Vapor pressure (Air=1) : 12.8

Vapor density (20°C, Air=1) : 1.01

Saturation vapor pressure (KPa) : 20°C时 0.11kPa

Combustion heat (kcal/mol) : Not available

Critical temperature (°C) : Not available

Critical Pressure (MPa) : Not available

Octyl alcohol/ Water partition coefficient values:

>6.14 Flash point (°C) : ≥190

Spontaneous ignition temperature (°C) : 395

Fire point (°C) : 229

Upper explosive limit% (V/V) : Not available

Low explosive limit% (V/V) : Not available

Solubility in water: Insoluble at 20°C

Solubility: Insoluble in water, soluble in chloroform, gasoline, ethyl acetate, methanol, toluene, mineral oil, vegetable oil and other organic solvents.

Main application: This product is PVC, polyethylene copolymer, polystyrene, cellulose nitrate, ethyl cellulose and synthetic rubber, a typical cold plasticizer. Plasticized in high efficiency, discoloration of the small heat, can giving the product a good low-temperature soft and light resistance, the goods in processing show good lubricity, products feel nice. And more use with the DOP, DBP plasticizer and other agricultural film for cold, frozen food packaging film, wire and cable coating, leather, plate, pipe and other outdoor use. However, the larger the product of the volatile, water resistance, migration resistance, electrical insulation, it is also a certain lack of use should be noted.

Other physicochemical property: dynamic viscosity: 13.7cp (20°C)

X. STABILITY AND REACTIVITY

Stability: Room temperature is very stable, long boil will be part of the decomposition, the monoester acid free

Materials to avoid: Acids, alkalis, oxidizers

Conditions to avoid: Fir, high heat.

Hazardous polymerization: Will not occur

Decomposition product: Carbon monoxide, carbon dioxide, dense smoke

XI. TOXICOLOGICAL INFORMATION

Acute toxicity: LD50: 9.1114ml/kg weight

Chronic toxicity: Not available

Thrill: Not available

Sensitization: Not available

Mutagenicity: Not available

Teratogenicity: Not available

Carcinogenicity: Not available

Others: Not available

XII. ECOLOGICAL INFORMATION

Ecotoxicity: Not available

Biodegradable: Not available

Non-biodegradable: Not available

Bioaccumulative: Not available

Others: This product is not allowed to discharge to the river or in the soil

Environmental data: The substance is harmful to aquatic organisms.

XIII. DISPOSAL CONSIDERATIONS

Nature of waste: hazardous waste

Waste disposal methods: treatment with controlled burning

Waste Note: Empty containers can be recycled as scrap or used, but not completely empty containers should be handled as a special waste

XIV. TRANSPORT INFORMATION

DOT product number: Not applicable

UN Number: Not applicable

Packing and marking: Environmentally hazardous substances

Packing Group: III

Packing method: Application iron drum

Transportation Note: Check the transport containers in advance; it should be completed, sealed. During transport process, containers should be placed with care to prevent crashing and rain. Strictly prohibited and oxidants such as mixed operation. Shipping should be isolated with the cabin, power, fire and other parts. Highway transportation should drive according to the provisions of road transport routes.

XV. REGULATION

Dangerous Chemicals Regulations (State Council Decree No. 344)

Workplace safe use of chemicals ([1996] Ministry of Labor No. 423)

Classification of hazardous chemicals used and signs (GB 13690-92)

XVI. OTHERS INFORMATION

References: "Safety Manual used dangerous chemicals," "Handbook of Chemistry and Chemical Property Data."

Fill in Date: 7th Dec. 2017

Fill in Department: Production technical department

Company: Foreschem Co.,Ltd.